

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number  
**WO 2004/092417 A3**

(51) International Patent Classification<sup>7</sup>:

C12Q 1/68

(21) International Application Number:

PCT/US2004/010649

(22) International Filing Date: 7 April 2004 (07.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/461,019 7 April 2003 (07.04.2003) US  
60/550,467 5 March 2004 (05.03.2004) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:  
2 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/092417 A3

(54) Title: MOLECULAR CORRELATES OF COCAINE ADDICTION AND METHODS FOR THEIR USE

(57) Abstract: The present invention provides compositions and methods useful in the diagnosis and treatment of addictive disorders including cocaine addiction. Target genes and their expression products are identified based on their differential expression in subjects affected by addictive disorders in comparison with control subjects. In another aspect, the invention also provides methods for evaluating candidate drugs to predict their therapeutic efficacy. The invention also provides methods for predicting whether a compound will be addictive. Compositions of the invention include arrays, computer-readable mediums, and kits for use in the methods of the invention.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/010649

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, MEDLINE, INSPEC, COMPENDEX, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/080758 A (IRM LLC; WALKER, JOHN, R; SELF, DAVID, W; FRANTZ, KYLE, J) 17 October 2002 (2002-10-17) claims 1-89; examples 1,2	1-53
X	LOFTIS JENNIFER M ET AL: "Cocaine treatment- and withdrawal-induced alterations in the expression and serine phosphorylation of the NR1 NMDA receptor subunit." PSYCHOPHARMACOLOGY, vol. 164, no. 4, December 2002 (2002-12), pages 349-359, XP001204966 ISSN: 0033-3158 abstract; figures 1-4	1-53

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the International search

3 February 2005

Date of mailing of the International search report

01/03/2005

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International Application No  
PCT/US2004/010649

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HASENKAMP W M ET AL: "REGION SPECIFIC ALTERATIONS IN IONOTROPIC GLUTAMATE RECEPTOR SUBUNITS OF COCAINE OVERDOSE VICTIMS." SOCIETY FOR NEUROSCIENCE ABSTRACT VIEWER AND ITINERARY PLANNER, vol. 2002, 2002, pages Abstract No. 897.14 URL- <a href="http://sf">http://sf</a> , XP001205157 & 32ND ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE; ORLANDO, FLORIDA, USA; NOVEMBER 02-07, 2002 abstract	1-53
X	LU L ET AL: "TIME - DEPENDENT MOLECULAR ALTERATIONS DURING ABSTINENCE FROM COCAINE SELF - ADMINISTRATION." SOCIETY FOR NEUROSCIENCE ABSTRACT VIEWER AND ITINERARY PLANNER, vol. 2002, 2002, pages Abstract No. 501.18 URL- <a href="http://sf">http://sf</a> , XP001204967 & 32ND ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE; ORLANDO, FLORIDA, USA; NOVEMBER 02-07, 2002 abstract	1-53
X	HASENKAMP W M ET AL: "Expression profile of ventral tegmental area in human cocaine overdose tissue" SOCIETY FOR NEUROSCIENCE ABSTRACTS, vol. 27, no. 2, 2001, page 2598, XP001204960 & 31ST ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE; SAN DIEGO, CALIFORNIA, USA; NOVEMBER 10-15, 2001 ISSN: 0190-5295 abstract	1-53
P,X	TANG WEN-XUE ET AL: "Molecular profiling of midbrain dopamine regions in cocaine overdose victims." JOURNAL OF NEUROCHEMISTRY, vol. 85, no. 4, May 2003 (2003-05), pages 911-924, XP001205156 ISSN: 0022-3042 the whole document	1-53
	-/-	

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PCT/US2004/010649

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>BACKES ERIC ET AL: "Discrete cell gene profiling of ventral tegmental dopamine neurons after acute and chronic cocaine self-administration." JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, vol. 307, no. 2, November 2003 (2003-11), pages 450-459, XP001204962 ISSN: 0022-3565 abstract</p> <p>-----</p> <p>YUFEROV VADIM ET AL: "Differential gene expression in the rat caudate putamen after "binge" cocaine administration: Advantage of triplicate microarray analysis." SYNAPSE (NEW YORK), vol. 48, no. 4, 15 June 2003 (2003-06-15), pages 157-169, XP009043512 ISSN: 0887-4476 the whole document</p> <p>-----</p>	1-53
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/US2004/010649

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 02080758	A 17-10-2002	WO 02080758 A2	17-10-2002